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M. G. Voronkov also states that organosilicon compounds can be used as heat transfer agents and describes the properties of tetrabenzylsilane, which can be distilled at a temperature above 550°C without decomposition. He further mentions the technical use of long-chain silicohydrocarbons in which the silicon atoms alternate with carbon atoms. (2) In discussing, on the basis of his work, silicohydrocarbons which have a molecular weight corresponding to that of petroleum lubricating oil fractions, Petrov states that the silicohydrocarbons in question have considerably lower congelation points than the corresponding hydrocarbons and that their specific weight is somewhat higher, while the indices of viscosity are practically the same as those of the hydrocarbons. Petrov further describes, on the basis of his own work, a series of liquid silanes which contain one or two naphthyl groups. He says that these silanes congeal into glasses within the range of minus 40°C to plus 40°C, and distill without the slightest decomposition between 350° and 400° C.

In discussing the synthesis of silicones and silicohydrocarbons, Petrov mentions the facility with which compounds of this type can be synthesized with the use of magnesium-organic compounds. He makes the suggestion that in view of the wide introduction of the Grignard synthesis into industrial practice for the synthesis of silicones, use be made of this synthesis to produce hydrocarbons that will serve as components of diesel fuels and of lubricating oils. According to Petrov, industrial Grignard syntheses of hydrocarbons can then be carried out at installations similar to those used for the production of silicones. (3)

SOURCES

1. A. D. Petrov, V. F. Mironov, The Synthesis and Properties of Silicohydrocarbons, Uspekhi Khimii, Vol 22, No 4, 1953, pp 377-409
2. M. G. Voronkov, The Chemistry of Organosilicon Compounds, Priroda, Vol 42, No 1, 1953, pp 41-52
3. A. D. Petrov, Khimiya Motornykh Toplivo (The Chemistry of Motor Fuels), Academy of Sciences USSR, Moscow, 1953, pp 439-450

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